

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-7. (Canceled)

8. (Currently Amended) ~~The system of claim 1;~~ A system that performs supplemental frequency domain training of a time domain equalizer comprising:  
a training module that uses an initial solution for time domain equalizer coefficients and determines updated time domain equalizer coefficients by maximizing the number of bits per frame; and  
a time domain equalizer that receives the updated time domain equalizer coefficients,  
wherein the training module further determines a mean squared signal value for each bin, for the given time domain equalizer coefficients.

9. (Currently Amended) The system of claim ~~[[1]]~~8, wherein the training module further determines an average error squared value over a predetermined number of frames for each bin.

10-12. (Canceled)

13. (Currently Amended) ~~The method of claim 11~~ A method that performs supplemental frequency domain training of a time domain equalizer comprising:  
receiving a solution of initial time domain equalizer coefficients;  
determining updated time domain equalizer coefficients by maximizing a number of bits per frame; and  
forwarding the updated time domain equalizer coefficients to a time domain equalizer,  
further comprising determining a mean squared signal value for each bin, for the given time domain equalizer coefficients.

14. (Currently Amended) The method of claim ~~[[11]]~~13, further comprising determining the average error squared value over a predetermined number of frames for each bin.

15-22. (Canceled)

23. (Currently Amended) ~~The information storage media of claim 21~~ An information storage media comprising information that performs supplemental frequency domain training of a time domain equalizer comprising:  
information that receives initial time domain equalizer coefficients;  
information that determines updated time domain equalizer coefficients by maximizing the number of bits per frame; and  
information that forwards the updated time domain equalizer coefficients to a time

domain equalizer, further comprising information that determines a mean squared signal value for each bin, for the given time domain equalizer coefficients.

24. (Currently Amended) The information storage media of claim ~~[[21]]~~23, further comprising information that determines the average error squared value over a predetermined number of frames for each bin.

25-30. (Canceled)